

PATENT ABSTRACTS OF JAPAN

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(54) BONDING WIRE FOR SEMICONDUCTOR ELEMENT

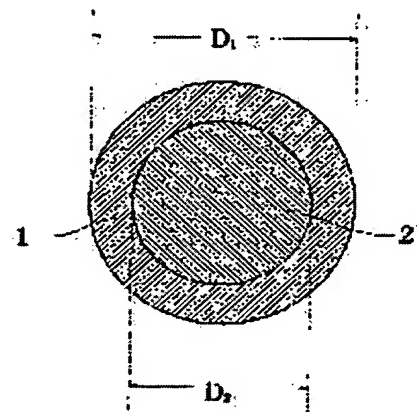
(57)Abstract:

PURPOSE: To make strength of a neck part equivalent to that of a busbar or more and to improve the drawing strength of wire by coating an outer peripheral surface of a core which consists of a specified metal or an alloy thereof with a coating material which consists of a specified metal or an alloy thereof.

CONSTITUTION: A coating material 1 which consists of high purity Pd or Pd alloy is clad on a core 2 which consists of high purity Ag or Ag alloy.

Then, wire drawing processing is performed. After annealing treatment is performed in the middle of the processing, a busbar of a specified wire diameter is formed by wire drawing processing.

Furthermore, stress is removed. In the constitution, a neck part is thermally affected during ball formation, and an outer peripheral part of the core and an inner peripheral part of a coating member of the neck part mutually diffuse; thereby a diffusion layer consisting of Ag-Pd alloy is formed and strength of the neck part is improved compared with a busbar without a diffusion layer. Therefore, it is possible to make strength of the neck part equivalent to that of the busbar or more. It is thereby possible to obtain thinner bonding wire, to reduce bonding pitch accordingly and to realize high density package of an LSI.



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